

AMENDMENTS TO THE CLAIMS

Claims 1-6 (Cancelled).

7. (Currently Amended) An auto-cruise apparatus comprising a vehicle-to-vehicle distance controller for controlling a vehicle speed of a subject vehicle with a set vehicle speed as an upper limit of said vehicle speed such that a vehicle-to-vehicle distance between said subject vehicle and a preceding vehicle becomes equal to a set vehicle-to-vehicle distance and controlling said vehicle speed such that said vehicle speed becomes equal to said set vehicle speed when it is determined that there exists no preceding vehicle and input device means for operating said vehicle-to-vehicle distance controller and for setting said set vehicle-to-vehicle distance and said set vehicle speed in response to operation by said driver capable of being operated by a driver with regard to a vehicle-to-vehicle distance control performed by said vehicle-to-vehicle distance controller wherein said set vehicle-to-vehicle distance and said set vehicle speed can be set by said driver via said input means, said auto-cruise apparatus further comprising:

a constant vehicle speed controller for controlling said vehicle speed such that said vehicle speed is maintained at said set vehicle speed whether a preceding vehicle may exist or not; and

a mode selector for selecting, in accordance with predetermined operations upon said input device means, either a vehicle-to-vehicle distance control mode in which a travel of said

subject vehicle is controlled by said vehicle-to-vehicle distance controller or a constant vehicle speed control mode in which said travel is controlled by said constant vehicle speed controller,

wherein a travel control by either said vehicle-to-vehicle distance controller or said constant vehicle speed controller is performed in accordance with a travel mode that has been selected by said mode selector;

wherein said input device means further comprises includes vehicle-to-vehicle distance setting selector means capable of changing said for switching the set vehicle-to-vehicle distance from a long distance to a short distance in response to operation by the driver when the subject vehicle is in the vehicle-to-vehicle distance control mode; and

wherein said mode selector performs a switching from said constant vehicle speed control mode to said vehicle-to-vehicle distance control mode if such change of the vehicle-to-vehicle distance from the long distance to the short distance is operated in response to operation by the driver upon said vehicle-to-vehicle distance setting selector means to switch the set vehicle-to-vehicle distance from the long distance to the short distance when the subject vehicle is in said constant vehicle speed control mode.

8. (Currently Amended) An auto-cruise apparatus comprising a vehicle-to-vehicle distance controller for controlling a vehicle speed of a subject vehicle with a set vehicle speed as an upper limit of said vehicle speed such that a vehicle-to-vehicle distance between said subject vehicle and a preceding vehicle becomes equal to a set vehicle-to-vehicle distance and controlling said vehicle speed such that said vehicle speed becomes equal to said set vehicle speed when it is determined that there exists no preceding vehicle and input device means for operating said vehicle-to-vehicle distance controller and for setting said set vehicle-to-vehicle

distance and said set vehicle speed in response to operation by said driver capable of being operated by a driver with regard to a vehicle-to-vehicle distance control performed by said vehicle-to-vehicle distance controller wherein said set vehicle-to-vehicle distance and said set vehicle speed can be set by said driver via said input means, said auto-cruise apparatus further comprising:

a constant vehicle speed controller for controlling said vehicle speed such that said vehicle speed is maintained at said set vehicle speed whether a preceding vehicle may exist or not; and

a mode selector for selecting, in accordance with predetermined operations upon said input device means, either a vehicle-to-vehicle distance control mode in which a travel of said subject vehicle is controlled by said vehicle-to-vehicle distance controller or a constant vehicle speed control mode in which said travel is controlled by said constant vehicle speed controller,

wherein a travel control by either said vehicle-to-vehicle distance controller or said constant vehicle speed controller is performed in accordance with a travel mode that has been selected by said mode selector;

wherein said input device means-further-comprises includes vehicle-to-vehicle distance setting selector means-capable of changing said for switching the set vehicle-to-vehicle distance from a short distance to a long distance in response to operation by the driver when the subject vehicle is in the vehicle-to-vehicle distance control mode; and

wherein said mode selector performs a switching from said vehicle-to-vehicle distance control mode to said constant vehicle speed control mode if such change of the vehicle-to-vehicle distance from the short distance to the long distance is operated in response to operation by the driver upon said vehicle-to-vehicle distance setting selector means for a predetermined

time period or more to switch the set vehicle-to-vehicle distance from the short distance to the long distance when the subject vehicle is in said vehicle-to-vehicle distance control mode.

9. (Currently Amended) An auto-cruise apparatus comprising a vehicle-to-vehicle distance controller for controlling a vehicle speed of a subject vehicle with a set vehicle speed as an upper limit of said vehicle speed such that a vehicle-to-vehicle distance between said subject vehicle and a preceding vehicle becomes equal to a set vehicle-to-vehicle distance and controlling said vehicle speed such that said vehicle speed becomes equal to said set vehicle speed when it is determined that there exists no preceding vehicle and input device means for operating said vehicle-to-vehicle distance controller and for setting said set vehicle-to-vehicle distance and said set vehicle speed in response to operation by said driver capable of being operated by a driver with regard to a vehicle-to-vehicle distance control performed by said vehicle-to-vehicle distance controller wherein said set vehicle-to-vehicle distance and said set vehicle speed can be set by said driver via said input means, said auto-cruise apparatus further comprising:

a constant vehicle speed controller for controlling said vehicle speed such that said vehicle speed is maintained at said set vehicle speed whether a preceding vehicle may exist or not; and

a mode selector for selecting, in accordance with predetermined operations upon said input device means, either a vehicle-to-vehicle distance control mode in which a travel of said subject vehicle is controlled by said vehicle-to-vehicle distance controller or a constant vehicle speed control mode in which said travel is controlled by said constant vehicle speed controller,

wherein a travel control by either said vehicle-to-vehicle distance controller or said constant vehicle speed controller is performed in accordance with a travel mode that has been selected by said mode selector;

wherein said input device means further comprises includes vehicle-to-vehicle distance setting selector means capable of setting said for switching the set vehicle-to-vehicle distance to at least a long, middle or short distance when the subject vehicle is in the vehicle-to-vehicle distance control mode; and

wherein said mode selector performs a switching from said vehicle-to-vehicle distance control mode to said constant vehicle speed control mode in response to such operation upon said vehicle-to-vehicle distance setting selector means that increases said the set vehicle-to-vehicle distance and is performed for a predetermined time period or more when said the set vehicle-to-vehicle distance is set to long.

10. (Currently Amended) An auto-cruise apparatus as claimed in claim 9, wherein said input device means further comprises includes a cruise switch for switching between a control state in which a vehicle-to-vehicle distance control by said vehicle-to-vehicle distance controller or a constant vehicle speed control by said constant vehicle speed controller is performed and a non-control state in which both said vehicle-to-vehicle distance control and said constant vehicle speed control are disabled; and

wherein said the set vehicle-to-vehicle distance is set to middle when said the non-control state is switched to said the vehicle-to-vehicle distance control mode.

Claims 11-20 (Canceled).